[EE] Evening Poster | P (Space and Planetary Sciences) | P-PS Planetary Sciences

[P-PS01]Outer Solar System Exploration Today, and Tomorrow

convener:Jun Kimura(Osaka University), Yasumasa Kasaba(Dep. Geophysics Graduate School of Science Tohoku University), Steven Vance(Jet Propulsion Laboratory, Caltech, 共同), Kunio M. Sayanagi (Hampton University)

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The giant planets provide many keys to understanding planetary processes. They play an important role in shaping our solar system, and the physical and chemical processes they harbor also provide a unique opportunity to study the phenomena relevant for studying
Earth and other planets, including exoplanetary systems. In this session, we discuss a wide range of topics encompassing the giant planets and their moons, including their origins, interiors, atmospheres, compositions, surface features, and electromagnetic fields. To advocate for current and future outer planets exploration (Cassini, Juno, New Horizons, JUICE, and beyond), we also call for discussions on future missions to explore giant planet systems, including how to develop better international cooperation. Discussion in this latter category will include progress in developing a solar sail mission concept for observing the Jupiter system and its trojan asteroids.

[PPS01-P01]Science and objectives of the JUICE-Japan team: interdisciplinary researches toward understanding the origin of the Jovian system and habitability of the Galilean moons

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JUpiter ICy moons Explorer, JUICE is ESA’s first L-class mission and will perform detailed observations of Jupiter and three of its large icy moons, Europa, Ganymede, and Callisto, using science payload consisting of 10 state-of-the-art instruments and one experiment that uses the spacecraft telecommunication. The Japanese science community has been participating into the development of four instrumentsparticipating (PEP, RPWI, GALA, and SWI) and into the science teams of six instruments (the above four plus JANUS and J-MAG). The JUICE mission will provide a unique and the first opportunity for Japanese planetary science community to directly be involved in outer Solar System explorations through providing the science hardwares.
This paper will discuss science objectives of the Japanese team for JUICE, including the objectives of each instrument team. In addition, we will discuss our interdisciplinary researches toward understanding the origin of the Jovian system and habitability within Europa based on JUICE’s observations.